

Most importantly these new televisions, cell phones and radios receive all EAS coded alerts (and also decode other alerts beyond the present capabilities of EAS) while receiving transmissions from analog or digital cable, analog or digital broadcast television, DAB, direct broadcast satellite (DBS), SDARS, or even cellular phone transmissions *even when these networks are NOT actually transmitting EAS information themselves.*

Brian Williams, Anchor and Managing Editor of 'NBC Nightly News' on Sunday, November 13th did something quite remarkable. He spent 30 minutes of uninterrupted air time critically examining communication response issues during Hurricane Katrina.

Communication and fundamental misunderstandings are why I respond here, and why FCC personnel should thoroughly review this filing and understand it completely.

First however some background on the writer of this material.

In March of 2003 while previously employed by Thomson (RCA) I demonstrated the first prototype TV with integrated public alerting (an RCA AlertGuard television) for the FCC Commissioners and their staffs during multiple sessions at the FCC. Among a substantial share of the patent filings covering analog and digital televisions integrating emergency alerting, as well as very recent filings covering extended areas of emergency alert telecommunications, I am listed as a principal inventor or co-inventor.

For the last 22 years I have worked at four of the largest consumer electronic and imaging companies worldwide. I presently develop and market digital television and video products with a large global television manufacturer, and for several years I have acted as Chairman of the Consumer Electronics Association (CEA) 'Public Alert Technology Alliance', an industry forum created in conjunction with U.S. and Canadian federal agencies including DHS, FEMA, NOAA, NWS, Environment Canada and Industry Canada.

I've also been a member of the International Association of Emergency Managers (IAEM) for several years, and have previously spoken before meetings of the 'Partnership for Public Warning' (PPW). My comments here, though not different from my previous public comments, are autonomous from CEA, PPW, IAEM, and my previous employers.

Previous to the events of '9-11' I was engaged in public alert integration in various telecommunication devices. I have also supervised the most complete emergency consumer product research conducted in the United States, including the most extensive field testing of "self initiating" emergency activation televisions at more than 400 U.S. locations, and during hundreds of hours of behavioral focus studies with U.S. citizens.

I assisted in developing the first technical standard (CEA2009A) for consumer electronic devices such as televisions, home security systems, bedside radios, and home and cellular phones capable of receiving new international public alert codes. It is the only such platform to receive its own CEA certification program together with an approved technical standard from both U.S. and Canadian federal agencies and the electronic industry. As of today it appears the FCC does not fully comprehend this critical 4-year

research and development work conducted at an estimated industry cost of \$65 million dollars and some 70,000 hours of engineering, field development, and actual product implementation.

Frankly, the very answers you seek appear to have been lost amid confusion where novices and single-focus proponents tread.

This brings us back to Brian Williams of NBC News. Mr. Williams concisely outlined communication failures before, during and following Hurricane Katrina through personal observation. Cited failures in using federal resources included avoiding immediate contact with those on the front lines who best knew the needs directly.

But just three minutes before Brian Williams began, rival CBS ended a two-part mini-series titled 'Category 7: The End of the World.' Amid the launching of multiple pseudoscientific gizmos and eye popping 'James Bond' information displays, FEMA was showcased on the CBS-TV miniseries as a technical and communication panacea.

With EAS issues, much like Brian Williams versus a mini-series, dazzle has covered the facts.

However I hope readers will pay attention here to the differences between pseudoscience and the ability to solve real problems. *Unfortunately the track record is not good if judged by the majority of FCC NPRM filings on EAS.*

The first point is in direct confrontation with time honored FCC and FEMA beliefs. Multiple methods of alerting the public to national, regional, and state emergencies are not always a good thing, nor should multiple alert formats be a long term goal of the FCC. With the amending of FCC Part 11, the EAS rules and regulations (47 C.F.R. Part 11) now extend current EAS obligations to additional digital distribution platforms. There are critics, including myself, who believe such an extension will simply further compound significant failures with EAS and promote "cry wolf" chaos during public emergencies.

Studies have documented that a new version of digital televisions which first shipped to consumers in 2003 (equipped with automatic turn-on alert triggering) can within roughly 8 years provide nearly 4 times more coverage than the nation's present Emergency Alert System (EAS) does today. This is 4 times more coverage even when combined with all AM-FM radios, all analog and digital televisions, all community siren and telephone call-back systems in existence today, plus the next 8 years of EAS implementation in all DAB, digital cable, DBS and SDARS.

During periods of time when many people rest (typically from 10:00 pm until 7:00 am) 72-91% of radios, cell phones, and televisions are shut off or unavailable. The EAS system via commercial broadcasters reached at best less than 1 in 3 of the public in 2001 during a full 24 hour day.

The EAS system has now slipped to periods of time where just 1 in 11 Americans have conventional devices “turned on” for alerts, and even during mid-day nearly 3 out of 4 Americans will not receive an EAS alert. The basis for these facts is extensive and will remain similar even with new transmission extensions of EAS.

Cross platforms will not penetrate the masses nor the disabled

Only two principal delivery methods exist in the U.S. today to alert the public nationally, or on population scales in the hundreds of thousands or millions.

The first transmission network is the Emergency Alert System (EAS) which typically uses commercial TV and AM-FM radio stations. The public has become familiar with this system as television and radio stations interrupt broadcasts to display or announce various warnings and alerts.

A second and completely independent transmission network is a government operated 24-hour commercial-free alerting system transmitted over FM VHF radio frequencies.

This second network is operated within the United States by the National Oceanic and Atmospheric Administration (NOAA) and is also duplicated with a compatible system operated by the Canadian government. **But please be patient here, this is NOT another rally for the merits of analog NOAA weather radio. Please read on.**

Much of the public, many in the media, and even some federal officials have assumed that the EAS network and these NOAA government transmitters are one and the same.

However, as of March 2006 both the NOAA transmission network and its Canadian counterpart (Environment Canada radio) will have full and uniform transmissions of compatible digital data which provide greater alert capabilities than the EAS network using commercial AM-FM-TV stations and also public television and radio stations.

Unfortunately today anyone within the transmission coverage area of an EAS broadcast gets the same alert even if it only is important to a specific area within the coverage area. And everyone within the total EAS transmission coverage area must be considered the same. Those outside of flood zones still receive flood alerts. EAS is sometimes dubbed ‘**E**veryone is **A**lways the **S**ame’. This is often referred by Emergency Managers as the “splat” approach.

So what does this have to do with any confusion at the FCC with EAS and providing newer and remarkable abilities?

These new products, imbedded with digital data decoding and processing, are known as

Public Alert™ certified televisions, home and cellular telephones, mobile car audio systems, and bedside radios. They even cover new home security systems imbedded with this new CEA Public Alert™ capability. These new products provide for the first time *Full Data String* digital data decoding. And that simply allows vastly improved capabilities.

A 2003 tracking study of the issued notifications (encoded advisories, statements, watch-level and warning alerts) showed more than 94% nationally of all these kind of alert transmissions were issued directly by NOAA and forwarded out on EAS conduits.

Therefore even though NOAA also issued the alerts over its own network commercial-free transmitters, more than 94% of the total alerts issued over the EAS dissemination system used by commercial broadcasters were those issued first from NOAA. By 2004 this figure was near 96%, principally as NOAA expands “all hazard” alerting such as the inclusion of child abduction information (AMBER alerts).

EAS is therefore simply (and with the exception of public radio and television stations like local NPR stations) a commercial broadcast conduit through which alert information (about 96% matched with NOAA) is routed and either fully eliminated before broadcast, or in a *minority* of cases simply re-stated by local TV and radio announcers.

There is one additional and critical limitation of the EAS network stream when compared to the Public Alert/NOAA/Environment Canada networks. This limitation is the conflict of interrupting an entertainment medium across wide population swaths (EAS), versus selective targeting of citizens (Public Alert™). And this is where the FCC hasn’t seemed to fully separate Utopian EAS concepts from the needs of the general public and the hearing and visually impaired.

The goal for public alerting is a rapid response reaching the public in their homes and working environments, even as they entertain, conduct daily community tasks, *or sleep. Including methods that reach those with disabilities outside of the “EAS splat” approach.*

These are the facts:

1. Among the alerts a Public Alert™ device can respond to, but are NOT present in EAS monitoring nor in *EAS transmission* equipment used by broadcasters, are:

BIOLOGICAL HAZARD WARNING
CONTAMINATED WATER WARNING
BLIZZARD WARNING
CHEMICAL HAZARD WARNING
DAM BREAK WARNING
CONTAGIOUS DISEASE WARNING

FOOD CONTAMINATION WARNING
FLASH FREEZE WARNING
ICEBERG WARNING
LAND SLIDE WARNING
NATIONAL SILENT TEST
POWER OUTAGE ADVISORY
WILD FIRE WARNING
And others

2. Every Public Alert™ device today can alert even when they are turned "off" if the user wishes. This is true of radios, televisions, home security systems, and both home and cellular phones integrated with certified Public Alert™ capability. Even with its new and substantially lower base of reception products, remarkably the actual percentage of U.S. citizens that can be alerted during sleeping hours is already (after just one year) almost identical to those reached by EAS commercial radio and television!

Many of these new devices have options to respond with *variable* volume chimes, sirens, electronic voice modes to provide alert details, and also on-screen expanded text. As an example, in the televisions which incorporate Public Alert™ capability, the viewer will receive alerts if they have the TV in stand-by ("off"), or while watching ANY television channel, or using an external device such as a VCR, DVD player, or video game.

Such televisions (20"-32") have already been sold at thousands of retail store across the United States. Nationally a variety of retailers promoted these TV capabilities during 2004 and early 2005, including all Target stores. With the integration of digital ATSC television tuners, the next generation of Public Alert™ televisions is due in early 2007 under multiple brand names. XOCECO, known in the United States as Prima Technology and operating under the television brands Advent, Jensen, PRIMA and (in Canada only) Legend, will showcase Public Alert™ LCD HDTV models for 2007. The company is also a major OEM supplier for other brands of LCD and plasma televisions, with a major double-digit market share in televisions (under 9 brands) in the United States.

3. Every Public Alert™ television can provide 100% alert compatibility while connected to EVERY cable system provider (even those without EAS), EVERY satellite system (even those without EAS), and EVERY broadcast channel in the U.S. or Canada (even those not providing EAS).

This is possible since an independent tuner is actively monitoring the imbedded digital data of the Public Alert/NOAA/Environmental Canada networks rather than an EAS commercial or PBS broadcaster.

This "universal" compatibility also exists in Public Alert™ bedside radios, certified Public Alert™ cellular phones, land-line telephones with Public Alert™ integration, Public Alert™ mobile and automotive radios, and also Public Alert™ certified home security systems ---- even when some models include traditional EAS commercial radio station reception as well.

4. All Public Alert™ devices provide automatic translation for all alerts (including those presently unique to Canada) into multiple language text. These are also the first devices to provide an accepted standard for alert text in English, Spanish and Canadian French.

This multi-language ability has never been previously addressed in any EAS delivered method *even for our multi-lingual U.S. territories.*

And regardless of what language text is on the outgoing emergency transmission keyboards used at EAS and NOAA transmission sites, all Public Alert™ devices translate the data into these multiple languages. Another first.

5. Every Public Alert™ device incorporates 'Specific Area Message Encoding' (SAME) which allows the device to respond only when an alert matches the specific area(s) the user has chosen for alert coverage. This prevents alarm triggering for areas outside the neighborhood where the device is used, virtually eliminating the "cry wolf" and annoyance factor common with analog reception weather radios.

This is directly opposite the 'SPLAT' approach used in the EAS transmission/reception platform where everyone (even those in multiple counties) receive every alert. It has also been a similar problem with older NOAA weather radios that trigger an alert using the 'SPLAT' method whenever an analog tone was sent for out, causing many of the public to unplug the radios out of sheer annoyance.

Now in all Public Alert™ devices the users themselves select simple options to monitor from one to more geographic areas *simultaneously*. And all certified Public Alert™ televisions include the built-in memory of more than 3400+ geographic U.S. locations (including all U.S. territories), and more than 2000 geographic entries are built-in for Canadian (and joint U.S./Canadian) models.

Locations are selected on your video or TV screen simply by highlighting your state and county (or subset such as a parish or township) from on-screen alphabetical selections. A TV set-up takes 1 minute or less and actually informs you if you move or activate the television without properly setting up your new location.

6. Every Public Alert™ device includes uniform alert technology for the hearing impaired. All Public Alert™ integrated video display devices larger than 9", including televisions, also provide four tiny flashing and/or stationary light indicators visible from at least 15-feet, which are green, yellow, orange, and red.

These correspond to ACTIVE AND MONITORING, ADVISORY ISSUED, WATCH ISSUED, WARNING ISSUED. All Public Alert devices share at least the yellow, orange and red indicators and no other panel indicator can be the same color. Example: On a television a power lamp is generally blue to avoid confusion with the green or red Public Alert™ indicators. The positioning of the alert indicators is also apart from others. Again these kinds of specifics are under an industry approved technical standard jointly developed with U.S. federal agencies.

7. Every Public Alert™ includes rapid response to digital data alert triggering signals. Generally this occurs in 7-15 seconds from the reception of the transmission, as the units decode the digital data and process the geographic and alert data. A certified Public Alert™ device must trigger an alert solely from digital data transmissions ---- not the 1050Hz tone used by older NOAA "weather radio" analog devices. Thus, an analog NOAA "weather radio" is not certifiable as a Public Alert™ device.

Every Public Alert™ device however continues to offer the analog voice channel which includes 24-hour continuous information, and can provide vocal alert messages for persons with vision disabilities.

8. Public Alert™ devices offer transmission and reception compatibility throughout the U.S., all U.S. territories, and include the U.S.-Mexico and U.S.-Canada borders. Adjoining Canadian marine areas became effective in October 2005. These are the first emergency consumer devices, including integrated TV's, to achieve this ability under a compatible North American standard. The same device works in both countries, over the same emergency frequencies, the same way.

These are *remarkable* achievements, particularly as they are already accepted across a worldwide manufacturing industry, and were supported and negotiated for 100% compatibility by federal agencies in both Canada and the United States. Full implementation can be achieved rapidly, as it is occurring now, without detours.

9. Public Alert™ devices use public airwave transmission coverage and reception which reaches 97% of the population within the United States and U.S. territories.

The equivalent (and compatible) system in Canada will reach an estimated 92% of the Canadian population by February of 2006. Both of these government commercial-free systems operate 24/7/365 and unlike the EAS delivery system all transmitters are managed and designed for operation during severe weather and power-outage conditions.

10. Every Public Alert™ television can provide 100% alert compatibility whether it is an analog TV, an SDTV (Standard Definition), EDTV (Enhanced Definition), or HDTV (High Definition). The incorporation of NTSC and/or ATSC tuners does not affect the abilities of the Public Alert™ integration already achieved.
11. Every Public Alert™ device offers silent triggering during all government tests, including all weekly and monthly tests. Public Alert™ devices end the "cry wolf" syndrome and the weekly annoyance of alarm testing in homes. This allows Public Alert™ devices to be constantly active, monitoring and ready to trigger only when required.

Public Alert™ products include several self-diagnostic capabilities, such as providing a visual light or an on-screen text message to indicate a weekly silent test has failed. The present certified Public Alert™ TV's also notify the user if the particular alert transmission frequency channel being received does not provide coverage that matches the area they have selected.

These silent "self-diagnostic" capabilities were cited in one FCC NPRM response as functions requiring advanced future technologies ---- but the same features and others actually became available in Public Alert™ TV's sold nationally beginning in late 2004.

12. All Public Alert™ certified devices include a minimum level of tuner and decoding performance, with more stringent and modern test methods to insure adequate reception and decoding performance. Example: The verification of actual performance for open-air SINAD sensitivity for all Public Alert™ devices requires retransmission of the signal 20 times, and the success rate must be 100% for certification. By comparison FEMA offers no technical certification of minimum performance parameters for either EAS transmitters or consumer EAS receivers.

Low cost EAS radios reached the U.S. market in 2002 that failed to actually alert during specific tests, including reacting to a Nuclear Power Plant Warning. Yet there are no industry or government standards covering adequate reception and decoding capabilities for EAS consumer radios, nor any type of testing method outlined by FEMA.

With specific minimum levels of performance set under an accepted technical standard (CEA2009A), Public Alert™ devices are already *two decades* beyond the most recent FEMA “visionary” recommendations.

13. Public Alert™ capability does not prevent the future incorporation of a 'Common Alert Protocol' centralized data hub to be created. To clarify several misrepresentations made in prior FCC NPRM filings, Public Alert™ capability simply provides the most viable means for consumer electronic devices to take the critical data, without the liabilities associated with independent non-government agencies, and provide them to the public from public airwaves, free of subscriber fees.

By monitoring one centralized U.S. government transmission source ---- transmissions now imbedded 24/7/365 with digital data ---- the hardware complexities are reduced rather than attempting to monitor multiple sources or divergent types of incoming telecommunication links. It also allows a uniform government transmission source (or two when adding the compatible Canadian government system) to simplify the delivery system.

The FCC's recent response for satellite companies to explore the capabilities of specific reception area encoding, and for broadcasters and cable systems to relay multiple pathways are not the direction we should head. How does a TV or radio manufacturer attempt to simultaneously monitor multiple incoming pathways or multiple frequencies? Tuners are traditionally monitoring only a single channel.

Under the new FCC expansion how does a citizen know the proper conditions when a cable network is announcing three simultaneous alert conditions based on multiple affected counties on the network, and a satellite channel is reflecting separate alerts in adjoining geographic areas?

With one common emergency *transmission* system (FM VHF transmission over common frequencies and using common digital data encoding and decoding), and one uniform alert *reception* method for consumers, there is simply no faster means to receive, decode, and alert.

The complexities of attempting to monitor simultaneous transmissions and decide which alert is the priority and also best matched to the listeners/viewers needs and location may be impossible.

It is also a legal liability nightmare for manufacturers of reception/decoding devices and commercial transmission networks to “lock” such a range of decisions from among a diverse set of incoming signals, or in the case of televisions among multiple incoming channels.

And a suitable selection menu/interface to allow users to determine choices would likely be so complex that its use would be beyond comprehension. This is the prime reason the Public Alert™ method keeps it simple across multiple types of products. **And simple and unified information, not more, is best for emergency communication.**

14. Public Alert™ devices allow 100% of the information transmitted to be received and evaluated, with options for the consumer to tailor and customize alert choices including silence mode for a specific alert (non-critical events only) on most models. Unlike the EAS method, not everyone within an 80 mile transmission range needs to be informed of a FLASH FLOOD WARNING. For someone 70 miles from a flash flood zone, why should they be interrupted by some meaningless alert ----- unless they wish to be? The Public Alert™ platform and matching devices help reduce “cry wolf” alerts, unlike EAS.

And while EAS proponents argue for allowing broadcasters the option to edit and eliminate the pass-through of incoming alerts, particularly EAS notifications of various advisories or watch-level alerts, *other* alerts targeted for elimination can include small geographic pockets within the total broadcast coverage area. Will a SEVERE THUNDERSTORM WATCH become a TORNADO WARNING? EAS places the option to notify in the hands of a resident employee ---- or often an automated system preprogrammed to eliminate certain priority levels.

Unlike Public Alert™ devices, the pass-through of all EAS alerts is currently entirely voluntary through broadcasters with the exception of a single national alert warning. Forty-eight other EAS events can be issued at will, or the broadcaster can substitute entertainment or commercials. With automated systems (particularly at night) under multiple alerts, full notification of all area alerts can collapse. And once again, FEMA provides no national and uniform set of minimum guidelines among all alerts that should (even voluntarily) be set for immediate pass-through.

None of the FCC NPRM responses addressed this issue, other than as a “necessary filtering” process ---- not as an imperfect means that can also eliminate potentially critical information to smaller segments of the total transmission coverage area. But the problem exists because realistically, EAS broadcasters cannot operate as full-time emergency coordination centers.

Each year NOAA provides more than 100,000 notifications and alerts within the continental United States alone. At least 50,000 never reach the public through EAS broadcasters, though 100% reach Public Alert™ devices before the user applies their own specific and customized “filtering.”

Under the present voluntary program many commercial broadcasters who issue EAS alerts and notifications have "cut back" to only issuing certain types of alerts, and many only when at WARNING level. Some airwaves and cable and satellite networks have become silent over vast coverage areas.

The FCC's new extension to obligate additional transmission platforms to issue EAS still ignores the issuing of 48 of the 49 EAS alerts including NUCLEAR POWER PLANT WARNING, TORNADO WARNING, TSUNAMI WARNING, and BIOLOGICAL HAZARD WARNING. If the response is "they would issue them anyway" why not mandate that obligation to insure decoding equipment is actually in compliance?

For Public Alert™ device owners, even if they select the silent mode for a non-critical event (such as removing an audible alert for FLOOD STATEMENT), with the yellow-orange-red indicators (which operate even in the silent mode), the notice of an incoming warning is passed though visually on these LED's throughout the duration of the alert, inviting the user to check if they wish.

15. Public Alert™ devices automatically classify the severity of all alerts and messages, including (for the first time) all current alerts. As an example, in addition to the data text, the new '911 TELEPHONE OUTAGE EMERGENCY' displays uniformly on all devices as an ADVISORY, lighting the corresponding yellow indicator.

An EMERGENCY ACTION NOTIFICATION displays uniformly on all Public Alert™ devices as a WARNING, lighting the red indicator.

This ability to "sort by level of severity" has never previously been standardized or implemented across more than 60 event codes. It is yet another benefit outlined, negotiated, standardized, and implemented across multiple countries, and multiple languages ---- but only under the new Public Alert™ platform.

For the hearing impaired and the general public the instant recognition of indicator lights in green, yellow, orange and red matching the levels of alert severity is quickly accepted.

In focus studies conducted in homes with Public Alert™ products parents reported their young children over time gave less attention to a yellow "advisory" indicator but learned to check an orange or flashing red, and listened to the alert voice or read the on-screen alert text.

And parents report the steady green light that indicates the emergency transmission signal is being properly received (and also confirms the TV is ready for an alert) was comforting to both children and elderly adults.

A “quick glance” is all it takes to confirm the status of their neighborhood, even when the television screen or radio is off. The green, yellow, orange or red indicators always display the current status.

By comparison there are eleven reasons why EAS should be replaced and fade away after a short 6 year transition to certified Public Alert™ transmission and reception devices. For the FCC this means ceasing to propagate the life of EAS beginning in 2007 and begin providing support for a full scale Public Alert™ integration process. The concerns:

1. The public is able to monitor EAS delivery alerts only when listening to receivers participating in alerts at the time. While the FCC recognizes many cable and satellite stations lack EAS coverage across all channels, just as critical is that virtually no re-issuers are 24-hour manned or operational. Few are capable of even implementing their own 24-hour EAS alert for a local disaster when it is not first received through an outside source. *Even if it occurred within 1 mile of the station, many evening and early morning station personnel lack the authority and liability over-ride clearance to transmit an EAS alert on their own.*
2. The EAS delivery system is highly intrusive into normal programming, but without specific geographic targeting. Notifications and warnings are delivered with a “splat” approach for the entire coverage area. This increases a “cry wolf” public response over time, reducing emergency response.
3. EAS broadcasters have no mandatory broadcast interrupt beyond a single national alert which has never been issued. While this “all volunteer” program is acknowledged by the FCC and could change, more complete requirements to implement geographic or specific alert targeting are not addressed. Another failure is that EAS has no means to either nationally or regionally test multiple alerts without public interruption.

EAS broadcasters have no means to silently download a test to conventional televisions and ask that the TV or radio respond and alert viewers when only if the transmission is weak or digital data fails to be properly decoded. Thus EAS cannot help eliminate common problems (such as incomplete alert reception) prior to an emergency in the consumer’s home. (A solution solved by Public Alert™ integrated televisions).

4. EAS transmitters offer no means to trigger an alert when a radio or television is turned off. While a few select stations transmit an initial “data burst” followed by the “termination burst”, this use is estimated at less than 4% of all alerts issued by EAS broadcasters within the United States. And these “data bursts” are often a mismatch to some geographic segments within the broadcaster coverage area. Principally this very limited implementation has been used near nuclear power plants.
5. EAS broadcasters are often reluctant (or incapable) of passing on advisories or alerts when the location is only a smaller segment of their total coverage area ---- this is particularly true during weather conditions when multiple simultaneous alerts are occurring. The EAS network stations therefore become publishing systems, with significant editing and removal of alerts sent from NOAA and other emergency officials.
6. The alerting method of EAS broadcasters is limited. There is limited text of the alert for the hearing impaired, no consistent standard for translations to multiple languages, and no standard used by EAS broadcasters of the level of severity of the information or alert. (Example: Is a CHILD ABDUCTION EMERGENCY an advisory, a watch, or a warning level?) Again, the FEMA support mechanisms behind EAS implementation are now 16 years out of date.
7. There is no constant "time remaining" count-down of alerts as they expire by EAS broadcasters. Because many EAS broadcasters only issue alerts as they are received, or restate an alert during the early minutes of its extended period, later listeners/viewers do not know the remaining time of the alert(s), or even at times know all of the alerts (among multiples) that have been issued.

Nor are there means to "replay" a text message once it has been issued, or translate it into a second language. This is helpful for the hearing impaired and a recognized key feature in Public Alert™ devices.

During focus studies of televisions with Public Alert™ people just arriving home and finding the device flashing yellow, orange or red can quickly review the emergency alert text in 3 languages (or hear current voice information) anytime during its duration. Current Public Alert™ televisions actually allow users to review the last 8 alerts (even if issued within minutes of each other from multiple locations) until they each individually countdown and expire. And these individual countdown times for each active alert are displayed on the same screen as are the location(s) of the alert locations within their community.

Again this level of sophistication continues to be a “wish list” in various government and independent study and research committees. There is no recognition that this work is completed, and finalized between global electronic companies with the participation of key Canadian and U.S. government agencies.

In fact these standards were adopted only after consumer focus and behavioral science studies and testing at more than 80 NOAA and EAS transmission sites over two years under actual alert conditions.

Additionally reception capabilities were tested at more than 400 sites in 35 states ----**from Pizza deli's in downtown Chicago to public libraries, hotel lobbies, tower suites, underground shelters, homes of multiple construction materials, and near ski resorts in Maine and Alaska. Testing was conducted even near marine areas along the coasts of California, Hawaii and Florida** ---- and finalized, approved for production, standardized under a technical standard, and is now in use by the public.

8. The equipment used by EAS broadcasters has no industry platform standard for minimum performance guidelines. FEMA seems little more than a federal proponent of EAS and additional untested platforms in “visionary” form (such as IPAWS) offered by a select few independent consultants and lobby groups who are well outside the consumer electronic industry, and are generally “visionary” non-participants in actual electronic tuner/reception development, electronic hardware production, or any type of consumer product manufacturing.

FEMA announcements have shown repeatedly an extremely naïve and uninformed technical understanding of emergency transmission and reception capabilities. As the 'Executive Agent for EAS' FEMA has failed to provide EAS consumer or broadcast hardware with any kind of a technical certification process, no minimum testing requirements, or even an industry standard.

Quality control and oversight for the nation's most critical emergency network and communication system has been left as a volunteer program without even a basic technical set of compliance guidelines.

9. Commercial broadcast EAS response times from decoding the alert to transmission to the public are typically 15-25 times longer than the 7-15 seconds required to decode and issue an alert over a Public Alert™ device receiving alerts from a government transmitter directly.

This means minutes of delays with EAS. Even when the EAS alert actually reaches a segment of the public where the alert is relevant, it can come too late.

10. No central command personnel are managing the EAS “voluntary” broadcast network. It is an segmented emergency system without a dedicated staff capable of making life-determining decisions that could cascade “across the network”.

The limited FEMA employees who understand the differences between EAS, Public Alert™ reception capabilities, and NOAA analog weather radio are few. And FEMA provides inadequate senior staff positions for these personnel, with little time or ability to interface with similar personnel at NOAA or industry technical standards working groups such as those of the Consumer Electronics Association.

11. Basic improvements to the EAS system, including proposals to implement minimum geographic targeting transmission data using DTV transmissions are likely to take more than 8 years to consolidate and begin producing the necessary receiving hardware, if at all.

The projected population base with useable, compatible hardware to any new transmission standard would likely be less than 30% by 2015. Proposals to create an effective 'Incident Command System' with effective consumer electronic device "universal" responders with selective triggering will likely take far longer.

Evolution won't improve the present EAS delivery system

While most outside of the broadcast community acknowledge the present U.S. EAS delivery system is broken, the ultimate irony is that the FCC now appears to actually support the replication of the system across additional transmission conduits. Rather than attempting to understand the distinct components of our alerting systems, recommendations such as an 'Incident Command System' (ICS) may overpower and dismantle functioning systems already in operation.

The “data casting” proposal from the Association of Public Television Stations (APTS) simply replicates the limitations of commercial transmission of EAS, and actually further compounds them by sending the alerts to PC's outfitted with a DTV tuner card. Have any of these proponents purchased a Public Alert™ television and compared the simplicity?

How does one “boot up” an idle computer for an alert when a tornado is seconds away?

Their concepts seem to be delegated to a financial lobbying program for Public Television Stations to provide EAS expansion, not deal with the needed realities of emergency alerting through consumer products. Widely hailed “testing programs” have been conducted without any inquiries to the CEA Public Alert Technology Alliance, or the open forum technical working group established for such discussions.

Cited pilot studies such as MCAP (Media Common Alert Protocol), and APAWS (Alternative Public Alert and Warning Systems), must be recognized as preliminary concepts only. New concepts utilizing portions of the digital television transmission bands, and a satellite based system for EAS messaging have significant "geographic targeting" and public participation limitations. Centralized internet data hubs have potential, but remain years away from being effective distribution command centers directly to the public.

Proposals to transition to IPAWS (some means of "integrated public alert warning system") also lack clarity and specifics, and appear extremely naive to many of the necessary capabilities. And IPAWS must not be confused with CEA certified Public Alert™ parameters, though IPAWS proponents typically avoid that clarification.

Today there are large concerns that newer alert delivery proliferation will further spread the inherent problems in the present EAS delivery system, creating multiple intrusions of the same alert(s) across multiple platforms. For those of you who have been told this a good thing, consider the following.

No reasonable, viable alternative

When a local EAS CBS-TV affiliate is transmitting a TORNADO WARNING but the cable system is relaying a THUNDERSTORM WATCH, which takes priority? Perhaps neither is right as they correspond to the location of the viewer. And is a computer coupled to the internet really a means to alert you at 3:00 am that the dam broke up stream? Doubtful,

These types of complexities in attempting to manage the issuing of specific alerts to specific geographic locations within a total coverage area, and consolidate those decisions across multiple platforms (satellite, cable, internet, TV NTSC transmissions, HDTV transmissions, and any DTV sub carrier transmissions), are not minor points.

Lives in a tornado's path, a tsunami, or nuclear power plant accident are often at stake.

The cost to erect a competing system combining the abilities of Public Alert™ devices with the imbedded digital data of the Public Alert/NOAA/Environmental Canada networks, including providing free non-subscription coverage for 97% of the U.S. population has been estimated at more than \$77 billion dollars.

Stand-alone Public Alert™ radios with a small text indication screen now are available from several manufacturers. Some of these devices are priced at retailers as low as \$49. Such products can sit at your bedside, unlike a PC. They function when home power fails, a likely event preceding tornados, floods, hurricanes, earthquakes, dam breaks, or terrorist attacks.

The Association of Public Television Stations does not address the merits of using PC's and DTV tuner cards during electrical storms, power surges, power failures, or as a simple downloading software exercise. What exactly is this "added capability" adding beyond the expense of supplemental DTV tuner cards and indoor computer antennas? Additional funding perhaps for the APTS?

EAS: Transmitting, but fewer are still listening

From 10:00 pm until 7:00 am each day 72-91% of radios, cell phones, and televisions are shut off or unavailable. Even during mid-day nearly 3 out of 4 Americans do not receive an EAS alert.

How do EAS, IPAWS, APAWS, and APTS supporters respond to this critical need that is lacking today?

Some cite '911 call-back systems' though such systems have been shown to be inadequate (due to extended call-back times) when implemented across concentrated population areas typically greater 500,000 residents. And like "subscriber fee" programs these are not uniformly available to all.

Many refer to a new emergency chipset or "*e-chip*" that provides universal platform alerting over a variety of networks and links with consumer electronic devices.

Close examinations of such "*e-chip*" proposals shows they are offered by personnel well outside the consumer product development arena. More serious is the complete lack of consumer devices to showcase these "visionary" proposals.

Hardware development, patent infringement issues, network incompatibility issues, selective triggering, manufacturing support, and uniform encoding/decoding processing are repeatedly left completely unaddressed.

Alternative proponents of Public Alert™ reference "open protocols" and "using open, non-proprietary architectures and applications", but these statements simply ignore conflicting intellectual property, patents, and extensive licensing programs.

Before proponents of alternative systems portray an appearance of congealed support behind new platforms, they are advised to first perform even the most basic intellectual property research.

The Department of Homeland Security's Office of National Security Coordination, and the Homeland Security's Information Analysis and Infrastructure Protection (IAIP) give token mention to "private sector" involvement in alert delivery systems, but repeatedly fail to acknowledge the existing intellectual property filings imbedded within IPAWS and/or APAWS. They are quite extensive.

The emergency "e-chip" that doesn't exist

For several years several of the same "visionary" consultants from outside the consumer electronics industry have cited a single "emergency chipset" that could be imbedded across a variety of consumer electronics products.

Many of the recent FCC Notice of Proposed Rulemaking responses that cite "e-chips" appear to be based upon consumer hardware devices that would need to be sold 50% to 80% below the cost of manufacturing. Several earlier proposals have noted that these manufacturing losses could be off-set by funds collected through *subscriber fees* the public would pay to "enterprises" developing new national alert networks.

Yet the "e-chips" that form the basis of these proposals do not exist. No member among the 2000 worldwide membership of the Consumer Electronic Association has ever shown such a chipset. And no worldwide chipset manufacturer has ever mentioned its development.

And commercializing alert reception services with subscriber fees is not a federal solution when all segments of the public must be offered life-saving protection. Yet this is an undisclosed financial pillar which supports many proposals.

In their FCC Notice of Proposed Rule Making (Docket #04-296) response, Wireless RERC noted "as the field test in the early 1990's verified, the cost to develop the appropriate chip was negligible for manufacturers. ...the Consumer Electronics Association Public Alert Receiver and the NOAA Weather Radio have automatic turn on and off features...as noted earlier, the cost to manufacture the chip is negligible."

A similar statement by others was cited three years ago in 'USA Today' while other media reports have noted a "50 cent chipset" that could solve the nations alert notification problems in consumer electronic equipment.

Yet no one has been able to trace these "field tests" when asked for the studies, and no Public Alert™ device or NOAA SAME weather radio has ever been marketed using a single chip. Not even two.

Many require 5 chipsets. Sophisticated chips (such as those in Public Alert™ devices, and many weather radios with SAME) are usually logged in multiple dollars per chip.

In the latest third-generation of TV models with integrated Public Alert™ capabilities, the five chipsets, a dedicated FM VHF tuner, extensive ROM, the four colored LED indicators, an audio preamp and amplifier, a quarter-wave antenna, digital decoding processors, and 7 dedicated controls are required for alerting. The materials cost is between 35 and 50 times many of these visionary estimates, even after three generations of lowering costs.

Televisions integrated with Public Alert™ capabilities typically retail for \$20-\$25 more than identical sets without. Development costs will be reduced, but far from 50 cent levels. Interestingly however, focus studies show the majority of consumers who understand the expanded capabilities find a \$20-\$25 TV Public Alert™ adder “cheap family insurance” for localized neighborhood emergency monitoring. And for those who don’t, the low cost of a bedside Public Alert™ radio offers a viable alternative.

EAS delivery system: Commercial and "e-chip" don't mix

An additional undisclosed fact about the non-existent “e-chip” is that such a chip, if it were ever created, would also depend on a transmission system compatible in sending the information. An “e-chip” solution must derive intelligence in part from the transmission it receives.

The EAS media delivery system fails to provide even basic “intelligence” requirements such as geographic community targeting, auto “on” alerting, and user selectable alert type triggering.

Today EAS doesn't even prioritize all event conditions or instantly provide text translations into multiple languages.

Those favoring an 'Incident Command System' using an “internet backbone” fail to acknowledge that while a centralized information hub with security entry and exit makes sense, the outgoing data taken from that hub would be re-transmitted with many of the same problems as EAS today.

It's not just filtering and centralizing the data, but distributing the alert data over distribution conduits to the public that is the key issue.

So why support futuristic “sub carrier” transmission proposals via delivery systems such as EAS/IPAWS/APAWS/APTS when they fail to meet even a minimum benchmark for wide consumer alert capabilities? Their appeal seems to be their extreme ambiguity.

As such, they can be everything to everyone. And committee sessions and research can continue to propagate “wish lists”. *And proposed costs can have little basis in fact.*

A centralized data hub

Among those directly involved in the technical cross-developments required to match the delivery/transmission with alert reception devices, the consensus is that the NOAA network infrastructure should become the exclusive centralized data hub over time under a 'National Emergency Warning System' (NEWS).

NEWS as a government operated centralized data hub meets the necessary requirements, and (unlike some NPRM responder proposals), eliminates liability risks over some newer alert delivery systems that propose alternative centralized internet data hubs.

The working current system is structured today so individual government agencies such as NOAA, the U.S. Geological Survey's Earthquake Information Center, FEMA, and each of the state Governors Command Centers provide the data.

Public Alert™ devices break through

One FCC NPRM responder, Henry Ruhwiedel stated "I don't think my TV set would even come on fast enough to see or hear the message if it was 'commanded on' automatically. I would likely not even be awake yet to see/hear the message, and I would unplug it if I felt I was going to lose a night's sleep from some crackpot who decides to have fun and wake everyone up."

In response, current Public Alert™ televisions, like all certified Public Alert™ devices, do in fact respond within 15 seconds and can be made to sound alarms (required minimum of SPL of 77 db at one meter from 500-1500Hz) loud enough to fully wake a sleeping giant.

Fortunately they also are fully user adjustable in volume increments, including models that provide automatic slow ramp-up volume to a user adjusted maximum level. One manufacturer even provides soft chimes for some kinds of alerts, and a “European police siren” for others. But the process of how each Public Alert™ device performs and decodes the alerts with corresponding severity warnings is uniform.

Even if it took a few moments to become fully awake, Public Alert™ devices allow the user to instantly review the alerts they previously received until they expire.

Unlike the broadcaster EAS network, the Canadian and U.S. government operate the network(s) supplying the digital data used by Public Alert™ devices. The “crackpot who decides to have fun” is unlikely to be one of the highly trained National Oceanic and Atmospheric Administration employees located throughout the country. For NOAA employees critical public alerting and notification is 24/7/365.

EAS: "The wolf is coming! The wolf is coming!"

A further misconception noted in many of the FCC NPRM responses is that many alerts are over issued. This is a perception created by the way the EAS broadcasters deliver alerts over commercial radio and television via the SPLAT method.

If a commercial broadcaster providing EAS transmission serves ten counties, a relatively conservative average among many radio and television broadcasters, just 10% of the alerts broadcast by EAS media are directly relevant to the listener. This figure can drop to near 4% for many larger broadcast coverage areas. *That's an annoyance factor between 90-96%. Broadcasters therefore stress the alerts issued, not the percentage that correctly corresponds to the need of their audience.*

Coupled with new multiple delivery systems, including DTV, cable, and cellular, this "cry wolf" issue will destroy the urgent attention required by any alerting system.

The more one comprehends EAS delivery by broadcasters, and the limitations of alternative proposals, the harder it becomes to accept such delivery across huge population swaths.

Current EAS problems cannot be resolved by just expanding the coverage areas ever further. As the specific alert segment becomes a mere niche, the annoyance of the total listener base increases.

What the proponents of other systems don't acknowledge is that rapidly Public Alert™ devices can *replace* the present EAS delivery system.

Coverage across the globe is in place now.

While it hasn't been easy, areas from Caribou Maine to Barrow Alaska have on-site commercial-free 24/7/365 government network transmitters and Public Alert™ device reception.

In all prior NPRM responses no mention was made by alternative proponents as to how they might better cover Puerto Rico, Guam, or Pohnpei. For the record, Public Alert™ devices met these challenges three years ago in testing, and now operate 24/7/365.

U.S. territories from the Republic of Palau, to the Federated States of Micronesia are operational, including more than 3-dozen islands and reefs.

The Great Lakes include this same coverage, as do marine areas from the Gulf of Mexico to the Bering Sea. Hundreds of test locations using Public Alert™ devices were conducted in 2003 and 2004 *prior* to final development and production.

Beside Public Alert™ reception devices receiving this expansive Canadian and U.S. emergency 24/7/365 network, no new reception and transmission options have been presented that can provide even close targeted alerting for over 5400 North American specific coverage areas today.

And a computer with internet access on a reef in Micronesia or on the frozen summits near Barrow Alaska remains a distant economic or technically sensible choice when compared to the optimized sophistication of a \$49 Public Alert™ radio.

The present Public Alert/NOAA/Environment Canada transmission network will last decades, and can already be easily retrofitted with technical upgrades. And Public Alert™ devices have an existing industry technical standard, certification program, and performance history with consumers.

Public Alert™ devices will eliminate the EAS delivery system

For a brief period of time going forward multiple forms of public alert communication are beneficial, though the deficiencies of the EAS media dissemination system have been critical for several years.

However, when examining the percentage of the population which will be alerted through EAS delivered alerts (via the media), or via an NOAA reception device, an interesting comparison is seen. Today many public facilities and offices monitor the safety of citizens in schools, malls, theatres, transportation hubs, and other areas by monitoring NOAA and Environmental Canada transmissions.

When combined with many homes now using newer digital data receivers (Public Alert™ products) the actual total percentage of the public getting an alert directly from NOAA versus EAS delivery relayed through the media is nearly identical. And of those nearly equal numbers, only the 24/7/365 commercial-free receivers such as Public Alert™ devices specifically target public segments. Which system is really the nation's alert backbone?

So what is the reasoning behind the FEMA NPRM response which instead cites IPAWS as "a new digital backbone"? Such a statement by FEMA is both truly perplexing and a belief only from the uninformed.

In their own FCC NPRM response (Docket 04-296), Alert Systems, as a proponent of an 'Incident Command System' critically evaluates "auto turn-on and forced tuning" methods. They cite "auto turn-on methods require continuous receiver operation. In some consumer devices, the additional power consumption would be significant and runs counter to EPA 'green' energy conservation and standby power reduction initiatives."

It is an enormous strain on credibility to link Public Alert™ devices as reeking havoc on the environment. In Public Alert™ certified home entertainment stereos, home security systems, home phones, televisions, and bedside radios the additional "monitoring" wattage required has been shown to typically be between 4 and 7 watts. That wattage matches many home hallway night lights and is *half* the wattage of many wireless telephone charging stands.

And it is certainly dramatically less than operating a PC as it constantly monitors DTV transmissions and is prepared for an instant relaying of audio and video. But perhaps the Association of Public Television Stations hasn't considered the merits of a \$49 device that operates more effectively than a PC and requires typically less than 7 watts.

Even in both a 70" High-Definition plasma television, and a 61" DLP HDTV television with integrated HDTV tuner, the additional "monitoring" wattage using a customized internal antenna is projected at under 12 watts for Public Alert™ integration. This is approximately the wattage used by many bedside clock radios which operate continuously.

One EPA administrator has admitted that an exemption clause is likely appropriate for Public Alert™ devices which were eliminated from ENERGY STAR status after failing to meet a new 1 watt power level in "stand-by" mode. EPA has repeatedly failed to understand that devices that monitor emergencies 24/7/365 cannot go into a "shut-down" mode to a 1 watt level. If they did, manufacturers could simply provide more of the same EAS devices that people shut-off, but are ENERGY STAR accepted. After three years the EPA is still studying this awkward dilemma, and a growing list of manufacturers is waiting for the EPA to offer an exception clause.

Meanwhile several state agencies question why EPA is not supporting Public Alert™ products for nursing homes, retirement communities, hospitals, etc. Fortunately many have begun to question EPA's bizarre methods of reasoning, and are simply ignoring EPA's 'Energy Star' purchase recommendations.

Yet the energy consumption is hardly a viable reason to avoid protecting up to 92% of the public during sleeping hours ---- when energy use is at a minimum. And while it's fine to conserve energy, those proposing alternative systems fail to note they have no alternative in their proposal but nighttime silence as people sleep.

And their proposals get really convoluted if one compares apples to apples and includes the *selective* geographic and event category activations found in all Public Alert™ devices.

Side stepping reality in prior NPRM filings

In the FCC NPRM response from Alert Systems, they note, "So long as NWS [National Weather Service] lacks sufficient geographic specificity and other features, local agencies are reluctant to activate in industrial fire[s], school shootings and other non-weather situations. Without these features, NWS disturbs too many people unnecessarily, particularly the *elderly and infirm*, and especially at night."

This is an example of ignoring the technical and performance capabilities of Public Alert™ devices versus 30 year old analog weather radios. The claims of disturbing "the elderly and infirm" are similar to "power consumption would be significant" ---- they are messages of obfuscation run amuck.

The Public Alert™ technical and performance standard (CEA2009A) was created in conjunction with NOAA and other agencies, and includes a section outlining external triggering capability, such as silent bed vibrators, emergency lighting sensors, external audible alarms, etc. ----- many specific to the nursing home, hospital, and retirement communities. Many of those systems are in use today, and were first incorporated by leading NOAA weather radio manufacturers as many as 20 years ago.

And some models of Public Alert™ devices can already decode a remarkable 8 times narrower in geographic targeting when supplied with a specific geographic targeting location. A full size county can be "target zoned" to areas one-ninth its coverage size. While this doesn't narrow down to an emergency in a homeowner's driveway, it certainly meets localized "neighborhood" targeting with "sufficient geographic specificity".

Public Alert™ supporters are becoming incensed in the lack of preparation and knowledge by many consultants and independent agencies involved with the EAS review process. There are sufficient materials in the public record and in a 8-page "white paper" published by the Consumer Electronics Association to avoid generalities that ceased being accurate more than two decades ago.

Claims regarding technologies and capabilities imbedded, or to be imbedded in consumer electronic devices are far more accurate when comparisons can be openly discussed and reviewed in open forum.

Based on estimates, the present EAS relayed system may not be required by 2014 if effective use of Public Alert™ devices expands. As an example, the average consumer replaces at least one consumer electronic item (among phones, home audio products, radios and televisions) every 5-6 years, providing by 2010 many homes with a Public Alert™ capable device.

A rough gemstone

The FCC Notice of Proposed Rulemaking (04-296) asked, "Would mandating the adoption of such technology to other consumer electronic devices enhance the effectiveness of EAS and other PAW [Public Alert Warning] systems?"

The answer is only if the adoption was based on integrating the merits of Public Alert™ capabilities. The constraints of the present EAS network cannot be enhanced effectively.

If a consumer already has purchased a Public Alert™ capable product today, is it reasonable to force (using a manufacturing mandate) the purchase of yet another? Does a home require a television to have integrated Public Alert™ capabilities if the home's security system already includes it? Not likely.

Gary Shapiro, President of the Consumer Electronics Association has noted the consumer electronic industry efforts "to be good corporate citizens and save lives" should not, as in the case of the V-Chip, "be shifted from a good CEA idea to a mandatory requirement." This is a responsible position backed by the continuing efforts of many manufacturers to promote public alerting.

The FCC should encourage this voluntary participation by the consumer electronics industry to add Public Alert™ integration, particularly as we transition away from EAS.

However, as long as the EAS delivery system is promoted as the nation's "backbone" there will be no consensus that Public Alert™ adoption is the stronger alternative. And unfortunately, the FCC's continued attention paid to the EAS and alternative "visions" for delivery systems skews attention away from the Public Alert/NOAA/Environment Canada networks and the adoption of Public Alert™ devices.

So much confusion exists that the media, and many agencies seamlessly combine EAS and the various NOAA alerting methods as a single component ----- under the EAS name tag. The FCC can help achieve an understanding, and the proper distinctions between these two principal delivery methods, and new certified Public Alert™ devices.

During a 2002 'Partnership for Public Warning' conference, I noted that an estimated \$76 million dollars (that's with an "m") was required to completely maximize the system and create the centralized hub for a National Emergency Warning System (NEWS) platform. Newer estimates place this figure near \$92 million. Kenneth Putkovich outlined this NEWS unified structure, using the NOAA network as a foundation, in an earlier FCC NPRM (04-296) filing.

Mr. Putkovich, now retired as NOAA's Chief, Dissemination Systems Branch, deserves a full examination of this previous FCC NPRM filing.

Like the intelligent and personal news gathering of Brian Williams at NBC, Kenneth Putkovich's comments have been overlooked amid the dazzle of unreal special effects.

Today a gemstone lies before us. It has survived for some 30 years and been passed over, stepped on, picked up and tossed aside. It looks somewhat flawed, doesn't sparkle and amaze, and lies completely out in the open.

Unlike those who seek visions in deep unexplored voids, a 24/7/365 network has already saved hundreds of lives. With the new CEA Public Alert™ device standard, this network has a matching reception pathway.

We must acknowledge realities from black holes and discover what's at our feet.

Thank you for your attention and determination to seek the facts.

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This document is available at www.emergencyalerts.info